DOCUMENT-IDENTIFIER: US 5832636 A
TITLE: Article of footwear having non-clogging sole

DEPR:
As shown in Table IV above, the contact angle of water on a glass is 27 degrees, in contrast with polytetrafluoroethylene which provides a contact angle of 109 degrees. A high contact angle of water on a material indicates a low wettability of the material. Thus, polyetrafluoroethylene has a lower wettability than glass. The use of Teflon.RTM. polytetrafluoroethylene on non-stick aluminum cookware provides another example illustrating the relationship of contact angle and the low wettability and low surface energy characteristics of an adhesion prevention material. That is, a water drop on polished aluminum can have a contact angle of approximately 50 degrees, but after the utensil has been coated with a Teflon.RTM. PTTE coating a water drop
can exhibit a contact angle of over 120 degrees. In the present invention, the
wettability characteristic of the adhesion prevention material is preferably such that the wettability index (i.e., the average of advancing and receding contact angles as described later) of pure distilled water on the adhesion prevention material is equal to or greater than about 90 degrees.

DETL:
TABLE I

Some
Preferred Type I Anticlogging Materials Chemical Name with Abbreviation
Trade
Name Manufacturer

Polytetrafluoroethylene (PTFE) Teflon .RTM. PTFE DuPont Fluon .RTM. PTFE ICI America Fluorocomp .RTM. PTFE ICI America Hostaflon .RTM. PTFE Hoechst-Celanese Polyfon .RTM. PTF Daikin Algoflon .RTM. PTFE Ausimont Halon .RTM. PTFE Ausimont Poly(tetrafluoromethylene-co-hexafluoropropylene) (FEP) Teflon .RTM. FEP DuPont Neoflon .RTM. FEP Daikin Polytrifluoroethylene (P3FE) Polyhexafluoroethylene (PHFP) Poly(tetrafluoroethylene-co-chlorotrifluoroethylene) (TFE/CTFE) Poly(tetrafluoroethylene-co-pefluoroalkylether) (FFA) Teflon .RTM. PFA DuPont
Hyflon .RTM. PFA Ausimont Neoflon .RTM. PFA Daikin
Poly(tetrafluoroethylene-co-perfluoroalkylether + Kalrex .RTM. fluoroelastomer
DuPont cure site monomer) fluoroelastomer Poly(vinylidene fluoride-co-hexafluoropropylene + Viton .RTM. fluoroelastomer DuPont cure site monomer) fluoroelastomer Fluorel .RTM. fluoroelastomer 3M
Poly(vinylidene fluoride-co-tetrafluoroethylene + Viton .RTM. fluoroelastomer DuPont cure site monomer) fluoroelastomer Fluorel .RTM. fluoroelastomer 3M
Poly(tetrafluoroethylene-co-propylene + Aflas .RTM. TFEP fluoroelastomer Asahi Glass, 3M cure site monomer) fluoroelastomer
Poly(ethylene-co-tetrafluoroethylene) (ETFE) Tefzel .RTM. EFTE DuPont Halon .RTM. ETFE Ausimont Neoflon .RTM. ETFE Daikin Polychlorotrifluoroethylene (CTFE) Neoflon .RTM. CTFE Daikin Kel-F .RTM. CTFE 3M Aclar .RTM. CTFE Allied Signal Poly(ethylene-co-chlorotrifluoroethylene) (ECTFE) Halar .RTM. ECTFE Ausimont Poly(vinylidene fluoride-co-chlorotrifluoroethylene) Kel-F .RTM. fluoroelastomer 3M (PVDF/CTFE) fluoroelastomer Halar .RTM. fluoroelastomer Ausimont Silicones see reference Stoskoff(1994) Fluorinated silicones see reference Stoskoff(1994)

DETL:
TABLE II _____ Mean Kinetic Coefficient of Friction for Flat Plates on Astroturf .RTM. Surface Material Mean Kinetic Coefficient of Friction _____ Nitrile Rubber 0.9 Styrene-butadiene rubber 0.7 Polyurethane 0.6 Polypropylene 0.4 Nylon 6 0.3 Polyethylene (UHMW) 0.2 Teflon .RTM. polytetrafluoroethylene 0.2 _____ Note: UHMW = ultra high molecular weight

DETL:
TABLE III _____ Range of Kinetic Coefficient of Friction on Astroturf .RTM. Surface Translational Traction of Flat Rectangular Specimens Material Kinetic Coefficient of Friction _____ Styrene-butadiene rubber 0.7 Nitrile Rubber 0.8.about.1.0 Poly(vinyl chloride)/nitrile 0.8.about.1.0 rubber, blend of 50 parts/ 50 parts Poly(ethylene-co-vinyl acetate) 0.9.about.1.2 /Zeosil/CaCO.sub.3, blend of 100 parts/10 parts/10 parts Poly(ethylene-co-vinyl acetate) 0.6.about.0.8 /Zeosil, blend of 100 parts/ 60 parts blend Poly(ethylene-co-vinyl acetate)/ 1.0.about.1.2 UHMW polyethylene blend (*) Polypropylene 0.4 Nylon 6 0.3 Polyethylene (UHMW) 0.2
Teflon .RTM. polytetrafluoroethylene 0.2
_____ Note: (*) UHMW = ultrahigh-molecular-weight polyethylene

DOCUMENT-IDENTIFIER: US 5478624 A
TITLE: Synthetic yarn with heat-activated binder fiber

BSPR:
Cut-pile carpet is customarily produced from staple yarns or bulked continuous filament yarn. For example, staple fiber is conventionally carded, pinned, and spun or wrap spun into a singles yarn, which typically is twisted and plyed with similar yarn to form a 2-ply or 3-ply yarn construction. This yarn is twist set by utilizing one of several commercially available twist setting processes such as the Suessen or Superba processes.

CLPR:
10. A process for production of carpet comprising heating the yarn of claim 1 so that the binder fiber melts sufficiently so that it is capable of flowing, subsequently cooling said yarn to solidify said melted binder fiber, thereby encapsulating and bonding intersecting points of said base fiber, then incorporating the resulting heat-treated yarn into a carpet construction.

CLPR:
14. A carpet comprising face fiber produced from a twist set yarn, wherein said yarn comprises:

CLPR:
15. A carpet of claim 14 wherein component (iii) is present and comprises 10 to 50 wt. % of hexamethylenediamine dodecanedioate or a blend of hexamethylenediamine and dodecanedioc acid.

CLPR:
16. A carpet of claim 14 wherein component (i) comprises 60 to 85 wt. % caprolactam and component (ii) comprises 15 to 40 wt. % hexamethylenediamine adipate.

CLPR:
17. A carpet of claim 14 wherein said binder fiber is a ternary copolyamide of

the 6/66/612 type.

CLPR:
18. A carpet of claim 14 wherein said base fiber is nylon 6.

CLPR:
19. A carpet of claim 14 wherein said chain terminator comprises stearic acid.

DOCUMENT-IDENTIFIER: US 4369213 A
TITLE: Process for preparing indigo-dyeable polyester fibers

BSPR:
Indigo-dyed denim fabrics are twill fabrics in which only the warp yarns are dyed. For reasons of style, it is desired not only that these fabrics have an initial deep indigo blue color, but also that the fabrics begin to fade in an obvious manner after only a few wearings and launderings. For stronger, more durable fabrics with better fabric stability than all-cotton fabrics, blends of polyester staple fibers with cotton have been used. The undyed filling yarns can be made of 50/50 polyester/cotton blends for high strength. However, since commercially available polyester fibers will not dye with indigo, it has been found that the warp yarns can contain only a small amount of polyester fibers--only about 10% wt. % in open-end-spun yarns and no more than about 25wt. % in ring-spun yarns--if the desired deep blue color is to be obtained. At higher blend levels, it becomes increasingly difficult to make a fabric which can be dyed to an acceptable indigo shade.

DOCUMENT-IDENTIFIER: US 4975233 A
TITLE: Method of producing an enhanced polyester copolymer fiber

DEPR:
Tables 2 and 3 illustrate a number of characteristics of the fiber formed according to the present invention, and using terephthalic acid and ethylene glycol as the starting materials, and sufficient polyethylene glycol to produce a copolymer having 2 percent by weight polyethylene glycol. The polyethylene glycol had an average molecular weight determined by chromatography of approximately 400 grams per mole. The control was a 1.0 DPF (denier per filament) polyester homopolymer formed under otherwise identical conditions.
All of the 8 samples and the control were ring-spun into into a 100 percent synthetic 28/1 yarn and into a 50/50 poly/cotton (i.e. polyester-cotton blend) 28/1 yarn. The same fibers were also spun using open-end spinning at a rotor speed 95,000 rpm into a 50/50 poly/cotton 30/1 yarn. The dyeing conditions set forth were pressure dyeing (A), atmospheric dyeing with no carrier (B), and atmospheric dyeing with carrier (C), for 100 percent synthetic ring spun yarn knitted into hoselegs. In Table 3 and all other dyeability descriptions set forth herein, the dyeability of the samples is measured against the dyeability (calibrated as 100.0) of 1.0 dpf unenhanced polyester fiber and yarns and fabrics formed therefrom. The particular dyeing parameters are set forth in Table 4.

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	596	(ring or wrap) near2 (spin or spinnning or spun)	USPAT	2000/01/20 15:09
2	BRS	L2	13434	(adhesive or binder or bonding) near2 (fiber or fibre or filament)	USPAT	2000/01/20 15:22
3	BRS	L4	1	yarn same 1 same 2	USPAT	2000/01/20 15:26
4	BRS	L5	1	(1 SAME 2 SAME YARN)	USPAT; EPO; JPO; Derwent	2000/01/20 15:27
5	BRS	L7	1	(1 SAME 2 SAME YARN)	USPAT; EPO; JPO; Derwent	2000/01/20 15:33
6	IS&R	L8	3	(("5010723") or ("4753693") or ("4045605")).PN.	USPAT	2000/01/20 15:33

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	531	(wrap or ring) near2 (spun or spin or spinnning)	USPAT	2000/01/20 09:50
2	BRS	L2	596	(wrap or ring) near2 (spun or spin or spinnning)	USPAT	2000/01/20 09:55
3	BRS	L3	260	yarn same 2	USPAT	2000/01/20 09:57
4	BRS	L4	3375	carpet.ti,ab,clm.	USPAT	2000/01/20 09:58
5	BRS	L6	19	3 and 4	USPAT	2000/01/20 10:13
6	BRS	L7	13026	cotton same polyester	USPAT	2000/01/20 10:14
7	BRS	L9	7	3 same 7 same (blend or blending)	USPAT	2000/01/20 10:15